

SANDING TOOL FOR MOLDINGS OF WOOD OR THE LIKE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to a sanding tool for moldings of wood or the like, having a frame drivable in rotation on which a pad made of an elastic material is mounted in torsionally rigid fashion, and which sanding tool is coated with an abrasive.

2. Description of the Prior Art

It is generally known that moldings are known in many distinct profiles. They are used for many purposes including interior finishing. A high surface quality, which can only be achieved by sanding, is required. The sanding tool in question can be a ring sanding wheel, which is faced with the abrasive all the way around. It can also, however, be a so-called segmental sanding wheel in which only raised or protruding surfaces are coated with the abrasive. The pad is made of an elastic or plastic material, preferably sponge rubber. In the case of the sanding tools known heretofore, this pad mounted on the frame is adapted to the various profiles of the moldings to be sanded. As a consequence, the pad as well as the abrasive backing must be replaced when the profile is changed. Costs for sanding tools are correspondingly high because relatively many molding profile shapes are sanded with one sanding machine.

SUMMARY OF THE INVENTION

The goal of the invention is to fashion a sanding tool of the kind described more closely at the outset in such a way that tool costs are markedly reduced without the need to accept a diminution in the quality of the moldings to be sanded.

This goal is achieved in that the pad has a constant profile for the various molding profiles to be sanded.

While the pad holder was previously adapted to the profiles of the moldings to be sanded, now a universal pad is created and designed such that all profile shapes can be machined therewith. The pad holder is customarily ring-shaped. Although the abrasive substrates vary in profile shape, the inside diameter always remains the same, so that they can be slipped onto the pad holder. The sanding tool according to the invention makes it possible that the clamping system need be procured only once, while the abrasive substrates must be adapted to the profiles of the moldings. The tool according to the invention can accordingly also be regarded as a universal tool.

In a preferred embodiment, the pad has a cylindrical ring on which an outwardly oriented radial support ring is molded in at least one frontal end region. This design is especially suitable for an embodiment in which the sanding tool is fashioned in a ring shape and the circumferential surface is completely coated with an abrasive. In the case of a sanding tool containing a plurality of segments, the frame holding the sanding segment could be fashioned accordingly. In an advantageous development, the support ring has a groove, preferably running all the way around, on the side facing toward the cylindrical ring. The abrasive backing then engages with the associated frontal end region in this groove. Centering or guidance is accomplished in this way. If the sanding tool is made up of a plurality of segments, the associated ends of the abrasive backings engage in this groove. The abrasive is advantageously attached to an abrasive backing adapted to the outline of the molding to be sanded. This abrasive backing is then slipped onto the pad holder. The clamping system must ensure that it does not execute any relative movement

in the operating state. If the sanding tool is made up of segments, the abrasive is attached to the sanding segments adapted to the outline of the moldings to be sanded.

It is also possible, however, for a pad holder in ring form to be used again, but for the circumferential surface of the abrasive backing to be segmental, that is, there are high portions and low portions, and for only the elevated surfaces to be coated with the abrasive. If the sanding tool is made as a segmental sanding tool, the pad holder could also be made of a plurality of parts. The abrasive backing, as in the known embodiments, is made up of an elastic or plastic material, preferably sponge rubber. The pad or the pad holder, however, is fashioned so as to be stable in shape, and in a preferred embodiment is fabricated from metal, for example steel or aluminum. It advantageously has a central hub and a seat ring running concentrically thereto and bearing the pad. This hub and the seat ring are connected to one another by a flange-like face ring at at least one frontal face. In a preferred embodiment, the sanding tool is driven in rotation about a vertical axis. The cylindrical ring of the pad holder then has, in a preferred embodiment, a vertical circumferential surface. The support ring adjacent thereto has, accordingly, a horizontal surface. Furthermore, the height of the cylindrical ring is substantially greater than the diameter difference of the support ring.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The invention will now be explained in greater detail on the basis of the drawings, in which:

Figure 1 shows an embodiment of the sanding tool according to the invention in sectional view.

DESCRIPTION OF INVENTION

Figure 1 depicts a sanding tool 10, designed as a sanding wheel and whose circumferential surface is fully coated with an abrasive 11, for example with sandpaper. In the exemplary embodiment depicted, the sanding tool 10 is designed so that a curve in the shape of a quarter-circle can be sanded on a molding, not depicted. This profile shape should be regarded as an example because in principle all profile shapes can be sanded. In the exemplary embodiment depicted, abrasive 11 is applied to the circumferential surface of a ring-shaped abrasive backing 12. The outer surface of abrasive backing 12 is adapted to the outline of the moldings to be sanded. The inner outline or the inside diameter remains the same for all abrasive backings 12. Abrasive backing 12 is stuck onto a pad holder 13, which is fabricated from a flexible or plastic material, preferably sponge rubber. Pad holder 13 is made up of a cylindrical ring 13a and a support ring 13b, which is attached to one frontal end. If sanding tool 10 is driven in rotation about a vertical axis, support ring 13b lies at the bottom. On the side facing toward the outer surface of cylindrical ring 13, support ring 13b is provided with a groove 14 into which a corresponding projection of abrasive backing 12 engages. Because of the special fashioning of pad holder 13, it can be used for all forms of abrasive backing 12. Pad holder 13 is mounted in torsionally rigid fashion on a frame 15, which can be stuck onto the shaft of a sanding machine in torsionally rigid fashion. In the exemplary embodiment depicted, frame 15 is made up of a hub 15a, a seat ring 15b standing concentrically thereto, and an end ring 15c connecting hub 15a to seat ring 15b. Frame 15 is fabricated from metal, for example steel or aluminum.

In contrast to the embodiment depicted, support ring 13b could also have a larger diameter and extend into the region of the outer edge of abrasive 11. Preferably, however, the outer surface of support ring 13b is at a short distance from the edge of abrasive 11. Further, it

would be conceivable that the outer edge of abrasive 11 either rests on a terminating ring or abuts the inner surface. This terminating ring lies offset relative to support ring 13b, that is, offset in the direction toward the end surface of sanding tool 10 that faces away from support ring 13b. Such designs stabilize abrasive 11 in the region of curves or radii. It is further
5 conceivable that the abrasive backing is modeled cylindrically and that a void arises in the region of the curve of abrasive 11 between support ring 13b, abrasive backing 12 and abrasive 11, which void is then filled with air.

The embodiment depicted should be regarded as an example. Alternatively, it is also possible for sanding tool 10 to be a segmental sanding wheel in which the frame can be integral
10 or multi-sectioned and have a plurality of segments on which a corresponding number of pad segments can then be mounted. The abrasive backings are then fastened to these pad segments, which once again are of identical construction for all moldings to be sanded. Further, it is possible for pad holder 13 to have a circumferential surface fashioned in the manner of segments, only the raised regions being faced with the abrasive seats. The invention is not limited to the
15 exemplary embodiments mentioned. What is essential is that molding-dependent abrasive seats 12 are mounted on pad holders or pad segments of identical construction.

What is claimed is: